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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,942	07/14/2005	David Steven Thiede	5031-0101PUS1	5058
2292 7590 01/18/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER GUTIERREZ, ANTHONY	
			ART UNIT	PAPER NUMBER
			2857	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		01/18/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/18/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,942	<b>Applicant(s)</b> THIEDE	
	<b>Examiner</b> Anthony Gutierrez	<b>Art Unit</b> 2857	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/29/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Examiner has not considered the foreign patent document (RU-2193219-C1) because the Office has not received a copy of the document.

### ***Claim Objections***

2. Claims 2 and 3 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

These claims do not provide further limitation to all the limitations of the claim on which they depend (claim 1) but rather, refer to a portion of the claim on which they depend to refer to specific subject matter (multivariate discriminant analysis) to be incorporated into their own claims, without incorporating all the other limitations of the claim on which they depend.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims refer to "signature gas values" which are used in multivariate discriminant analysis. There are values disclosed on pages 4 and 5 of the Specification, but these values are not said to be "signature gas values". Furthermore, there is no indication that any gas related value might properly serve in the disclosed discriminant analysis. The Examiner therefore maintains that one skilled in the art would not know what properly constitutes as a signature gas value that may be successfully applied in the multivariate discriminant analysis in order to make the invention.

Furthermore, the values are used to provide a composite ratio parameter. The parameter from a survey is compared to the same parameter "measured on samples having predetermined characteristics for a known mineralization". The Examiner maintains that one skilled in the art would not be enabled to use the invention as use of the invention requires comparison of "survey" parameters to "known" parameters, both of which, are not enabled to be made.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has not provided either a novel example, nor a reference to that which is known in the art to exemplify a "signature gas value" which may be understood to serve in the claimed multivariate discriminant analysis. The Examiner is unclear as to what constitutes such a value, and therefore is additionally unclear as to what constitutes a dependent composite summed ratio parameter.

Furthermore, the language "comparing the composite summed ratio parameter **measured** from the survey samples" seems to imply that the parameter is a measured parameter rather than a calculated parameter that is based on measured values.

#### ***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to a judicial exception; as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The claims fail to include transformation from one physical state to another. Although, the claims appear useful and concrete, there does not appear to be a tangible result claimed. Merely comparing parameters or results would not appear to be sufficient to constitute a tangible result, since the outcome of the comparison step has not been used in a disclosed practical application nor made available in such a manner that its usefulness

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in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible.

### **Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. US 6,691,042 B2 to Weng et al., teaches methods for generating differential profiles by combining data obtained in separate measurements.

U.S. Patent No. US 6,598,458 B1 to Edwards et al., teaches an automated soil gas monitoring chamber.

U.S. Patent No. US 6,591,702 B2 to Hayes et al., teaches a method for identifying sources of rapidly released contaminants at contaminated sites.

U.S. Patent No. US 6,509,566 B1 to Wamsley et al. teaches a method for detecting trace amounts of hydrocarbon gases in the atmosphere.

U.S. Patent No. US 6,487,920 B1 to Robbat, Jr. teaches situ soil sampling that conveys a collection fluid.

U.S. Patent No. US 6,319,328 b1 to Greenberg et al., teaches a soil and/or groundwater remediation process.

U.S. Patent No. 6,048,497, to Lafargue et al., teaches a method for evaluating a pollution characteristic of a soil sample, involving quantity ratios.

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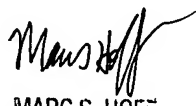
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (571) 272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Gutierrez  
Examiner  
Art Unit 2857

AG  
1/5/07

  
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